Usenet Newsgroup Archive: rec.ham-radio

1987

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Date span: 1987-04-21 through 1987-12-30

Source text: rec.ham-radio.txt

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Messages included in this PDF: 63

Messages are presented chronologically by archived date.

Binary or encoded payloads are not printed as blocks of encoded text; a placeholder appears where such material was detected. The original source text is unchanged.

1. HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-21 04:36:57 UTC
From: charlie@oakhill.UUCP
Message-ID: <870@oakhill.UUCP>
Source record: 19927
Cross-posted to: rec.ham-radio,sci.electronics

I bought an HP 608D Signal Generator made by Hewlett Packard at a
hamfest last weekend. It has a calibrated output down to .1 microvolts.
Such low levels are useful for testing receiver sensitivities etc.
I had heard rumors that the generator *leaks* and that it will radiate
levels in excess of .1 uv making it somewhat less useful at low output
levels. I have two questions:

1) Does anybody out there have a manual for this beast that they
would be willing to xerox for me.

2) Does anybody have any experience with this known-to-be-popular
signal generator. Any suggestions on how to fix the radiation
leakage problem with some sort of modification.

Thanks in advance,
Charlie Thompson WB4HVD
Motorola Digital Signal Processor Operation
Austin, TX
(512)440-2939 w
(512)892-6161 h

2. Re: HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-22 15:12:35 UTC
From: warren@sniff.dec.com
Message-ID: <256@sniff.dec.com>
Source record: 19928
Cross-posted to: rec.ham-radio,sci.electronics

I don't have a manual (that I know of, I'll check tonight) but I thought you'd like to know that my HP doesn't leak.

Warren

3. Re: HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-23 05:42:14 UTC
From: charlie@oakhill.UUCP
Message-ID: <871@oakhill.UUCP>
Source record: 19929
Cross-posted to: rec.ham-radio,sci.electronics

In article <256@sniff.dec.com>, warren@sniff.dec.com (warren sypteras) writes:
> I don't have a manual (that I know of, I'll check tonight) but I thought
> you'd like to know that my HP doesn't leak.
>
> Warren

I couldn't email this directly...forgive me.

Warren,

How did you determine that the HP608 you are using does not leak?
Are you saying that no coax connected to the output AND with the
output set at max attenuation (minimum output) that a nearby receiver
like, say, a VHF scanner, doesn't pick up any signal when tuned to
the same frequency as the generator? I hope the answer is yes since
I can't use this beast if it leaks more than is useful for testing
VHF receiver sensitivty. A good non-leaking generator for this purpose
will have no detectable leakage by a nearby receiver tuned to the
same freq.

Thanks in advance,
Charlie Thompson

4. Re: HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-23 16:30:40 UTC
From: dsi@unccvax.UUCP
Message-ID: <689@unccvax.UUCP>
Source record: 19930
Cross-posted to: rec.ham-radio,sci.electronics

In article <870@oakhill.UUCP>, charlie@oakhill.UUCP (Charlie Thompson) writes:

> I had heard rumors that the generator *leaks* and that it will radiate
> levels in excess of .1 uv making it somewhat less useful at low output
> levels. I have two questions:
>
> 2) Does anybody have any experience with this known-to-be-popular
> signal generator. Any suggestions on how to fix the radiation
> *leakage* problem with some sort of modification.

Mine definitely does not leak. (It, however, is the military version
which was made by several manufacturers). The secret to getting this
thing not to leak is:

1) The cover to the tuned oscillator and IPA must be absolutely RF
tight. This was before the days of "Sticky Fingers" and such.
Mine has an aluminum plate which mates into a cast chassis, the
plate has a groove machined into it, which must be filled with
silver plated braided copper or such. My favourite is to get
RG 174/U coax and pull the center conductor (including dielectric)
out).

2) ALL . . . repeat . . . ALL OF THE SCREWS MUST BE PRESENT IN THE
COVER.

3) The cable to the attenuator must be in good condition.

The 608 and its various clones (which are identical) is a fine
piece of equipment. I wish I'd a manual for mine, too.

David Anthony
DataSpan, Inc

P.S. Does anyone know what XV3 is in a Tektronix 491 spectrum analyser?

5. Re: HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-23 18:01:57 UTC
From: jeffr@sri-spam.istc.sri.com
Message-ID: <10053@sri-spam.istc.sri.com>
Source record: 19931
Cross-posted to: rec.ham-radio,sci.electronics

In article <689@unccvax.UUCP> dsi@unccvax.UUCP (DataSpan R+D) writes:
> The 608 and its various clones (which are identical) is a fine
>piece of equipment. I wish I'd a manual for mine, too.

Tucker Electronics sells manuals for the used equipment they
sell, and they sell the 608D. Call Jan Malatia at 800-527-4642.
Given their prices for used equipment, be prepared to pay a lot.

6. Re: HP 608D Documentation (actually Tucker Electronics)

Newsgroup: rec.ham-radio
Date: 1987-04-24 03:28:40 UTC
From: ornitz@kodak.UUCP
Message-ID: <806@kodak.UUCP>
Source record: 19932
Cross-posted to: rec.ham-radio,sci.electronics

In article <10053@sri-spam.istc.sri.com> jeffr@sri-spam.UUCP (Jeff Rininger) writes:
>In article <689@unccvax.UUCP> dsi@unccvax.UUCP (DataSpan R+D) writes:
>> The 608 and its various clones (which are identical) is a fine
>>piece of equipment. I wish I'd a manual for mine, too.
>
> Tucker Electronics sells manuals for the used equipment they
> sell, and they sell the 608D. Call Jan Malatia at 800-527-4642.
> Given their prices for used equipment, be prepared to pay a lot.

I have tried on several occasions to purchase manuals from Tucker without success. They would sell me a manual only if I purchased the instrument. They once told me that they had a spare manual but would not even loan it or photocopy it for me. If anyone on the net has a manual for a Telonic SPI-64 sweep generator, I have a deal for you!!! This may also be know as a SG-599/DRA-6 in military nomenclature.

I once placed a large order with Tucker for X-band waveguide hardware. It arrived with nice calibration decals, but several pieces were missing critical components which rendered them inoperable. I wonder how Tucker performed the calibrations? After sending these back, I have vowed to never have any more dealings with Tucker. Previously, I had sold some equipment to Tucker; they resold it at a 4 to 5 X markup. I also had to wait over four months for payment. My suggestion is to be wary when dealing with this outfit.

Barry WA4VZQ

| ___ _____ |
| | / / | | Dr. Barry L. Ornitz UUCP:...!rochester!kodak!ornitz
| | / / | | Eastman Kodak Company
| |< < K O D A K| | Eastman Chemicals Division Research Laboratories
| | \ \ | | P. O. Box 1972
| |__\ _____| | Kingsport, TN 37662 615/229-4904
| |
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7. Re: HP 608D Signal Generator Documentation

Newsgroup: rec.ham-radio
Date: 1987-04-24 18:19:13 UTC
From: warren@sniff.dec.com
Message-ID: <267@sniff.dec.com>
Source record: 19933
Cross-posted to: rec.ham-radio,sci.electronics

I used the same method with the receiver. In my case I took a 220Mhz receiver tuned to the gen output frequency with a 1/4 wave whip on it and moved around the gen. The gen, with it's output set at 1 uv and a dummy load plugged in didn't do anything to the receiver until I was within a few inches of it (the load that is). The receiver has a measured sens. of .08 uv. (to break squelch).

What I've found consistantly with my gen is that the damn coax leaks far more then the gen does. I'm using a 5 ft. run of RG58u double shielded and the stuff still leaks more then the gen.

I'm sorry, but I forgot to look for the manual. I'll do so tonight.

Warren

8. HP608D Leakage

Newsgroup: rec.ham-radio
Date: 1987-04-26 17:40:54 UTC
From: charlie@oakhill.UUCP
Message-ID: <873@oakhill.UUCP>
Source record: 19934
Cross-posted to: rec.ham-radio,sci.electronics

In the never-ending search to find the source of leakage in my
HP608D signal generator I have discovered what appears to be
the major source of radiation. There are three shafts passing
through the cast aluminum box. One is unused (older version?),
one is for tuning the output buffer, and one is for tuning
the oscillator frequency. Well, you guessed it, the shaft pas-
sing through the box that is used for oscillator tuning (actually
the grounded shaft of a variable capacitor)is making most of the
problem. In two places on the box is notice saying *do not oil
bearings*....they look oily! My theory is that some oaf in the
airforce tech pool oiled the blasted bearings for the shafts!
Now if you think its a simple matter to get those bearings out
and clean or replace them then drop me a line and tell me about
your experiences! Otherwise if you ever go to buy an old HP608
make sure you check it out electrically first.

The eternal leakage hunter,
Charlie Thompson WB4HVD

9. Attention: WWV, WWVH, WWVB, and GEOS Users

Newsgroup: rec.ham-radio
Date: 1987-05-21 16:01:40 UTC
From: cgs@umd5.umd.edu
Message-ID: <1692@umd5.umd.edu>
Source record: 19935
Cross-posted to: rec.ham-radio,sci.electronics,sci.space

[From articles appearing in the May issue of RF Design and June's Ham Radio]
The last user survey was in 1975, and over 10,000 responses were received.
According to the National Bureau of Standards (NBS), the responses were
"invaluable" in carrying out the mission of the NBS since 1975.

The NBS is conducting a survey of users of all its time and frequency services,
such as WWV and WWVH shortwave broadcasts, WWVB 60 kHz broadcasts, GOES satel-
lite broadcasts, and telephone time-of-day service. NBS requests users to par-
ticipate in the _Time and Frequency Services Users Survey_.
The survey results will help NBS provide the best mix of services and levels
of service to the broad spectrum of users who depend on them. Feedback from all
kinds of users is needed to assure that the Bureau's finite resources for these
services are allocated in the most effective way.
The Survey form is available from: Time & Frequency Survey, Div. 524.00,
National Bureau of Standards, Boulder, CO 80303, or call (303) 497-3294 between
8 AM and 5 PM MDT to request a copy.
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--==---==---==--
.. One, two! One, two! And through and through ..
ARPA: cgs@umd5.UMD.EDU BITNET: cgs%umd5@umd2
UUCP: ..!seismo!umd5.umd.edu!cgs

10. How to record 78 rpm records?

Newsgroup: rec.ham-radio
Date: 1987-06-01 01:05:06 UTC
From: iws@rayssdb.RAY.COM
Message-ID: <1668@rayssdb.RAY.COM>
Source record: 19936
Cross-posted to: rec.audio,rec.music.misc,rec.music.classical,sci.electronics,rec.ham-radio

I have a number of 78 rpm records which I would like to record onto
cassette tapes. Could you offer some suggestions?

I have a two channel, 9 band (50, 100, 200, 400, 800, 1600, 3200, 6400,
and 12800 hz), +-12dB graphic equalizer. The record player is a KLH
Model 11 (Garrard AT6 turntable with 16, 33, 45, and 78 rpm settings)
which has a mono/stereo switch, volume, balance, bass, and treble controls,
a Grado cartridge, and outputs for speakers only. I also have a stereo
receiver, with phono, tape, and aux in/out, and a stereo cassette recorder
with Dolby.

How do I hook up this equipment to record the 78's, get great
sound reproduction, and not blow up?

Should I get a special cartridge for 78's?

What should the tracking weight be set to for 78's?

What is the frequency bandwidth of 78's?

Is there a service/company that will record 78's onto tape and
get rid of the hiss, noise, and pops?

USEnet: ... {allegra, cbatt, cbosgd, cci632, gatech, ihnp4, linus,
mirror, uiucdcs} !rayssd!rayssdb!iws
ARPAnet: ... iws@rayssdb.RAY.COM
Ihor Slabicky MS 171 * Raytheon Company * Submarine Signal Division
P.O. Box 360 * Portsmouth, RI 02871-0360 * (401) 847-8000 ext. 5684
1234567890 !#$%^&*()_-+={[}]~`:;"'|\<,>.?/ 0987654321

11. Re: How to record 78 rpm records?

Newsgroup: rec.ham-radio
Date: 1987-06-02 19:47:05 UTC
From: gass@well.UUCP
Message-ID: <3203@well.UUCP>
Source record: 19937
Cross-posted to: rec.audio,rec.music.misc,rec.music.classical,sci.electronics,rec.ham-radio

In article <1668@rayssdb.RAY.COM> iws@rayssdb.RAY.COM (Ihor W. Slabicky) writes:
>I have a number of 78 rpm records which I would like to record onto
>cassette tapes. Could you offer some suggestions?
>
>I have a two channel, 9 band (50, 100, 200, 400, 800, 1600, 3200, 6400,
>and 12800 hz), +-12dB graphic equalizer. The record player is a KLH
>Model 11 (Garrard AT6 turntable with 16, 33, 45, and 78 rpm settings)
>which has a mono/stereo switch, volume, balance, bass, and treble controls,
>a Grado cartridge, and outputs for speakers only. I also have a stereo
>receiver, with phono, tape, and aux in/out, and a stereo cassette recorder
>with Dolby.
>
>How do I hook up this equipment to record the 78's, get great
>sound reproduction, and not blow up?
>
>Should I get a special cartridge for 78's?
>
>What should the tracking weight be set to for 78's?
>
>What is the frequency bandwidth of 78's?
>
>Is there a service/company that will record 78's onto tape and
>get rid of the hiss, noise, and pops?
>
I saw an article not long ago (was it in Audio?) about 78's. It looked
very good--I'd go to the library and check the Reader's Guide to Periodical
Literature to track it down.

Two points I do remember:

You need a special stylus for 78's. I know Shure makes them, but the
article said they weren't as good as those from another firm (was it Stanton?)
because their compliance was too high. They made it very clear that you
should NOT use the flip-over stylii that came with many older turntables.

Different companies used different equalization; RIAA came later. You'll
need your equalizer; the article gave recommended equalizations for
different disks. I'd expect you could do a pretty good job by ear; play
with the settings until you got the most listenable sound. (The article
mentioned an early McIntosh preamplifier that apparently offers a great
deal of control, and that is ideal for the job.)

There are companies that manufacture noise-reduction equipment for 78's
and other noisy disks. Packburn is one. Their gear is apparently very good

and very expensive; it sounds like it's used primarily by archivists. If you gave them a call, I'd bet they could put you in touch with people who have their gear and who copy old disks for a fee. Their address and phone should be listed in one of the audio manufacturer's guides (do any of you other readers have Audio's equipment guide? It'd probably be listed there.)

One other point: Dual now makes a fairly inexpensive, good-quality turntable that plays 78's. If you're really serious, you might want to give it a listen.

Good luck!

Mitchell Gass

12. Emergency Operation of PC/XT

Newsgroup: rec.ham-radio
Date: 1987-06-09 18:22:03 UTC
From: n2dsy@hou2d.UUCP
Message-ID: <1422@hou2d.UUCP>
Source record: 19938
Cross-posted to: comp.sys.ibm.pc,rec.ham-radio,rec.ham-radio.packet

I am looking for information on ways to adapt my very
compatible PC clone to a 12 volt power source. I am a member
of my local Emergency Management Amateur Radio group and we
are looking at ways to run these toys in vehicles in
conjunction with packet radio.

The first issue is the basic power supply: what's on each pin?

Is any of it AC ?

If we can get away without having to supply a low level (or
any level AC) source then we can probably cook up something
for any DC voltage required.

We don't want to use one of those power inverters...they're
hogs on juice !

Anybody done this before ?

Any thoughts ?

Thanks, Gordon Beattie houxm!hou2d!n2dsy
201-615-4772

13. Re: PC board photo etching kits

Newsgroup: rec.ham-radio
Date: 1987-07-08 01:16:58 UTC
From: ornitz@kodak.UUCP
Message-ID: <885@kodak.UUCP>
Source record: 19939
Cross-posted to: sci.electronics,rec.audio,rec.ham-radio

In article <2392@uwmcsd1.UUCP> neighbor@csd4.milw.wisc.edu.UUCP (Jeffrey Alan Ding) writes:
>
>Hello. Does anybody out there etch PC boards? I have a kit from
>GC electronics that uses chemicals to transfer a pattern onto the PC board.
>The artwork for the pattern is done on transparent plasic. The artwork is
>placed onto a PC board which is photo sensitized and exposed to Ultra Violet
>light. Then the PC board is developed and the pattern appears on the
>PC board. This method is very useful if multiple PC boards are wanted having
>the same circuit design.
>
>I'm wondering if anybody out there has used this stuff. I'm having a bit
>of trouble photo sensitizing my own PC boards. I've tried the process
>with PRE-sensitized boards and it works great. But the boards that I
>sensitize do not work at all. If any of you have any experience doing
>this I would appreciate any info on how to make it work. Oh one more thing,
>I'm using POSITIVE method. There are both positive and negative methods.

Jeff, I sensitize my own boards most of the time with consistently good results using Kodak KPR resist which unfortunately Kodak recently sold the rights to another company. Resist of this type has a definite shelf life and is quite sensitive about how it is stored. I have rarely had any luck using the spray-on resists sold by GC, etc. This products rarely sells quickly and is useless if overheated in the can. You might consider the Photo-Blue or Photo-Green (tm ?) presensitized boards which develop in a non-solvent developer which is much safer to use. If you really want the high definition needed for complex PC boards, you will probably have to go with the KPR type resists.

Now for a plug - especially since Kodak sold off their interests.

Buy the book, "Electronic Prototype Construction" by Stephen D. Kasten. This book is published by Howard W. Sams (ISBN 0-672-21895-X) and can be ordered through most major electronic distributors. The cost is about $18 and your money will be very well spent. Steve presents some of the most practical information I have seen on the subject. The book is well suited to beginners as well as more experienced users. The book is full of photographs and illustrations and is a storehouse of useful tips. Even if you value your time at next to nothing, this book will save you money. All hams and electronic experimenters should have a copy.

If this sounds like a blatant ad, it is. Steve is a coworker and close personal friend. I feel as if I have created a monster because I was the one to introduce Steve to hamfests as a source of electronic goodies and junque. It seems that on every occasion, he is working on a new project with parts

he bought at a hamfest. Buy his book - he needs the royalties to buy more parts and supplies. Seriously, his book is every bit as good as I said it was!
Barry


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| ___ ________ |
| | / / | | Dr. Barry L. Ornitz UUCP:...!rochester!kodak!ornitz
| | / / | | Eastman Kodak Company
| |< < K O D A K| | Eastman Chemicals Division Research Laboratories
| | \ \ | | P. O. Box 1972
| |__\ \________| | Kingsport, TN 37662 615/229-4904
| |
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14. Re: PC board photo etching kits

Newsgroup: rec.ham-radio
Date: 1987-07-08 17:40:45 UTC
From: hoffman@pitt.UUCP
Message-ID: <5775@pitt.UUCP>
Source record: 19940
Cross-posted to: sci.electronics,rec.audio,rec.ham-radio

In article <885@kodak.UUCP> ornitz@kodak.UUCP (barry ornitz) writes:
>In article <2392@uwmcsd1.UUCP> neighbor@csd4.milw.wisc.edu.UUCP (Jeffrey Alan Ding) writes:
>>
>>Hello. Does anybody out there etch PC boards? I have a kit from
>>GC electronics that uses chemicals to transfer a pattern onto the PC board.
...
>>I'm wondering if anybody out there has used this stuff. I'm having a bit
>>of trouble photo sensitizing my own PC boards. I've tried the process
>>with PRE-sensitized boards and it works great. But the boards that I
>>sensitize do not work at all. If any of you have any experience doing
>>this I would appreciate any info on how to make it work. Oh one more thing,
>>I'm using POSITIVE method. There are both positive and negative methods.
...
>I have rarely had any luck using the spray-
>on resists sold by GC, etc. This products rarely sells quickly and is useless
>if overheated in the can.

I have used the GC negative-acting photoresist with excellent results, but I had a fresh can. I guess I was lucky! What Barry says is true about its aging properties. I have learned that if the spray comes out a dark purple color, then it's OK. If it comes out yellowish, it's shot. Another important thing is extreme cleanliness of the board being sensitized -- this means taking scouring powder to clean any oxidation and oil off the board. Use 600-grit wet emery paper or steel wool if necessary. I don't like steel wool for the bits of steel it leaves behind. That board should positively GLEAM when you're done. Then, handle it only by the edges -- the oil on your fingers is enough to screw up the photoresist.

--
Bob Hoffman, N3CVL {allegra, bellcore, cadre, idis, psuvax1}!pitt!hoffman
Pitt Computer Science hoffman%pitt@relay.cs.net

15. floppy formats

Newsgroup: rec.ham-radio
Date: 1987-07-08 20:10:46 UTC
From: johnd@pedsgo.UUCP
Message-ID: <832@pedsgo.UUCP>
Source record: 19941
Cross-posted to: rec.ham-radio,comp.sys.ibm.pc

I am posting this for a friend,
please respond via mail to HIM, TNX ... johnd/KA2QHD

I am looking for any information on the PHYSICAL TRACK formats of IBM
floppy disks, 5.25 " and 3.5 "

I define Physical Format to the the BIT sequences between sectors including
sector/track ID, CRC's and flags.
This is the format that the disk controller puts on the disk, NOT the way
PC/MS-DOS organizes the file system on the disk.

PLEASE RESPOND TO ME VIA MAIL SINCE I DO NOT HAVE DIRECT ACCESS
TO THE NET.

Tom Moulton, W2VY
...!bellcore!hotps!tsdiag!tomm
or !vax135!hotps!tsdiag!tomm
or !ihnp4!hotps!tsdiag!tomm

--
MAIL: J.Decatur,CONCURRENT Computer Corp. 40 Pine st. Neptune NJ 07753
PHONE: 201-493-4880 TWX: 710-722-6502 FAX: 201-493-9167 FM: 145.11 RPT
UUCP: {ucbvax,decvax,ihnp4}!vax135!petsd!pedsga!johnd -- KA2QHD --
PACKET GATEWAY:.................. !mtunh!ky2d-2!ka2qhd CW: 21.150 Mhz

16. Re: PC board photo etching kits

Newsgroup: rec.ham-radio
Date: 1987-07-10 10:33:31 UTC
From: deann@auscso.UUCP
Message-ID: <81@auscso.UUCP>
Source record: 19942
Cross-posted to: sci.electronics,rec.audio,rec.ham-radio

Just a note to say "Hi" from a fellow Kodaker down in Austin, Texas.

Les G. Kiser
Field Service Rep.
(Ektaprint)

17. Re: PC board photo etching kits

Newsgroup: rec.ham-radio
Date: 1987-07-10 15:41:01 UTC
From: dale@amc-vlsi.UUCP
Message-ID: <371@amc-vlsi.UUCP>
Source record: 19943
Cross-posted to: sci.electronics,rec.audio,rec.ham-radio

In article <5775@pitt.UUCP>, hoffman@pitt.UUCP (Bob Hoffman) writes:

> thing is extreme cleanliness of the board being sensitized -- this means taking
> scouring powder to clean any oxidation and oil off the board. Use 600-grit
> wet emery paper or steel wool if necessary. I don't like steel wool for the
> bits of steel it leaves behind. That board should positively GLEAM when you're
> done. Then, handle it only by the edges -- the oil on your fingers is enough
> to screw up the photoresist.

In my most recent employment I was involved in P.W.B. prototype
fabrication both single and double sided. The problems with steel wool
pieces are solved using 600-grit emery paper, however this is still
too abrasive and you remove more cladding than you should. The best
cleaning method that we developed is as follows:

- Cut appropiate size board, and debur edges.

-Hot water, Comet (household cleanser), and Scotch-Brite.
The hot water and comet remove the oxidization with the
aid of the synthetic material scotch-brite. I don't
know the commercial usage of the stuff but it will rip
your skin off if you miss the pwb as your doing your
work. The scotch-brite has added advantages, its cheap
doesn't leave any residue etc.

- Rinse board in clean hot water, towel dry and immediately
rinse with isopropal and allow to air dry on edge.

We found that the board would positively "GLEAM" after
these steps were taken. Also process your cards as soon as you
can as oxidization has no concience. If you can't, leave them
in a isopropal bath until your ready.

Try it!

Dale K. Wlasitz

18. Re: PC board photo etching kits

Newsgroup: rec.ham-radio
Date: 1987-07-25 17:19:20 UTC
From: lars@sdcsvax.UCSD.EDU
Message-ID: <3519@sdcsvax.UCSD.EDU>
Source record: 19944
Cross-posted to: sci.electronics,rec.audio,rec.ham-radio

In article <371@amc-vlsi.UUCP> dale@amc-vlsi.UUCP (AMC Staff) writes:
> ... the synthetic material scotch-brite. I don't
> know the commercial usage of the stuff but it will rip
> your skin off if you miss the pwb as your doing your
> work. The scotch-brite has added advantages, its cheap ...
The manufacturer's intended use of Scotch-Brite is to clean
sinks, pots and pans. Yes, it is often used in conjunction with
"the commercial cleaner Comet".

Available in every Grocery store .... Cheers for reality.
/ Lars Poulsen

19. Re: Public Digital Radio Service wireless modem proposal

Newsgroup: rec.ham-radio
Date: 1987-08-24 06:54:32 UTC
From: elg@killer.UUCP
Message-ID: <1398@killer.UUCP>
Source record: 19945
Cross-posted to: comp.dcom.modems,rec.ham-radio

in article <77@splut.UUCP>, jay@splut.UUCP (Jay Maynard) says:
> In article <2788@hoptoad.uucp>, gnu@hoptoad.uucp (John Gilmore) writes:
>
>) > Pressure to end
>) > the Morse requirement is growing even among hams. Also, some influential
>) > people within the FCC are beginning to say publicly that some of the
>) > restrictions now put on hams (particularly the ones on message content) are
>) > unrealistic and unreasonable.
> The Morse Code objection is a red herring. Anyone can, with a minimal amount
> of study, learn the code. Are you trying to suggest that computer types
> aren't intelligent enough to do so?

A couple of local hams tried getting me into their hobby by waving the red flag of packet radio before my eyes. One shoved his ARRL handbook upon me, which I dutifully read. No big problem there, I like learning new and useful things (the power supply designs alone were worth the read). Then another one took me to the local hamfest (where I got a big mungo heatsink for a power supply I was building :-), and forced one of those introductory kits upon me, you know, the one with the Morse code tape in it. I read the first few pages, and listened to a few beeps, and then I said, "Why the hell am I sitting here listening to a damn tape beeping at me, when I could be doing something useful?!" Needless to say, I never did "get my ticket"... sure, it's only a few hours, but I'm a busy person, and if something that seems a waste of time comes along, there's 50 dozen other things to do tacked onto my bulletin board (hoards of little yellow notes, covered with suggestions, people I need to call, etc).
The point: technical information is useful, even though I'm a software guy. About the only people who'd complain about having to learn some technical info, would be dweebs who don't belong on the airwaves anyhow. But listening to beeps? I can think of better things to do with my time and money. Like, logging onto a USENET machine instead. And instead of spending a few hundred bucks on a used transciever and antenna, getting me a better printer, or that new software package that just came out, or....
Anyhow, I guess what I'm trying to say is that ham radio has gotten a bad image amongst todays techies. They don't see the old '50s image of the electronics wizard ham enthusiast cobbling up his own machine with spare parts and advancing the state of the art. Instead, they see basically upscale CB radio operators, who spend all these jillions of dollars just to beep at one another and "ragchew" all day, a waste of time and money. Until ham radio regains a reputation for technological prowness and sheds the waste-of-time-and-money reputation, the ranks of amateur radio operators will continue to dwindle.

I'm sure you ham folks can think of some good things about Morse code (like "well, it's as not sensitive to conditions as voice transmission, and in event of nuclear warfare, reception would be shot to hell, so we need to know Morse to communicate when the end of the world comes"). But to the average Joe Techie on the street, the kind of person you'd want to attract (as vs. the CB radio rejects), he sees no use in it -- all he sees is yet another way of wasting his time, and is immediately and permenantly turned off to ham radio. All that blather about ragchewing certificates and talk-to-all-this-and-that certificates and such, only confirms his suspicions. Raising potted plants seems more educational and exciting as a hobby, and cheaper, too. After all, who the f*ck cares if I talked to all 50 contenients and 99 foreign countries and 15 planets all on a tenth of a milliwatt of power!

--

Eric Green elg%usl.CSNET Ollie North for President:
{cbosgd,ihnp4}!killer!elg A man we can believe (in).
Snail Mail P.O. Box 92191
Lafayette, LA 70509 BBS phone #: 318-984-3854 300/1200 baud

20. Radio Amateur Telecommunications Society COSI-Switch Development Status

Newsgroup: rec.ham-radio
Date: 1987-08-26 13:58:39 UTC
From: n2dsy@hou2d.UUCP
Message-ID: <1539@hou2d.UUCP>
Source record: 19946
Cross-posted to: rec.ham-radio,rec.ham-radio.packet,comp.protocols.misc

********** The Radio Amateur Telecommunications Society **********
********** Information Bulletin 20 August 1987 **********

To: All Radio Amateurs
Fm: N2DSY @ KD6TH-4/201
Sb: COSI-Switch and RATS Update

The delays in getting out the COSI-Switch have been long and somewhat frustrating for everyone. Things are finally coming together.

What should be clear to everyone by now is that the originally announced X.25 Level 3 code has not arrived.

Something had to be done...

The project has been started from scratch by Tom Moulton, W2VY. He is getting consultation support from John Howell, N2FVN, Harlan Worchel, KB2CNL, and Gordon Beattie, N2DSY. All of these individuals have previously implemented X.25 switches or Packet Assembler/Disassemblers (PADs). We had a design review on the 14th of August and we are all quite pleased with the progress Tom has made. (Kudos to TOM !)

The revised delivery scedule is as follows:

1 Oct - Alpha testing of a completed COSI-Switch Level 3 module

1 Nov - Beta testing of a completed COSI-Switch machine - TNC-2/DR-200
(Any other hardware suggestions ?)

1 Jan - Production shipment begins

All individuals and clubs that contacted RATS regarding this project will receive MS-DOS Disks and EPROMS with the code during each phase of the testing cycle. We got a good deal on diskettes and EPROMs so we will include everyone ! The production version will include SOURCE in "C".

As with all the SOURCE we distribute, it is free for non-commercial use.

--- Delete the following before transmission over Amateur Radio networks ---

Support contributions are accepted and commercial licensing arrangements can be made. Contact RATS for details.

---------- END DELETE ----------

ALL proceeds go to the enhancement of the Packet Network.

Other happenings:

John Howell N2FVN has produced an implementation of the "Asynchronous Framing Technique (AFT) in "C". This is useful for providing error-checked, transparent HDLC links through asynchronous interfaces. AFT can be run over seven or eight bit networks and handles HDLC frames transparently. It is a nice building-block for the network.

This AFT is a generic implementation (accompanied by a "DOC" file) that includes code that runs under MS-DOS. Distribution of this code, in compressed form, will be via Amateur Packet Radio, Usenet and CompuServe HAMNET. The file name(s) will be based on the string "AFT10" for AFT version 1.0. It will be distributed in compressed form. We'll send it out with the first COSI-Switch test code.

John is working on a matching capability for the TNC-2. This would provide a error-checked link between PCs and TNCs. Harlan Worchel, KB2CNL (yes, a NOVICE !) is working on porting the code to the Commodore 64.

Brian Riley's (KA2BQE) latest release of the Packet Radio MailBox System, version 95c, supports forwarding through COSI-Switch, GatorSwitch and NET/ROM. It also has the "KT" (kill traffic) feature that will automatically generate a service message when a traffic message is removed from the packet network. It is available from RATS, with the "C" SOURCE CODE. Send a message to N2DSY @ KD6TH-4/201 or KA2BQE @ KA2BQE-4/609 to get a copy of the code.

RATS is currently beta-testing the GLB Netlink 220 19.2 KBps modem/radios. So fast ! Sooo goood ! We are also burning-in eight PAC-COMM DR-200s. These will be deployed shortly.

RATS wishes to thank you for your patience. We're not real happy with how we got into the Level 3 COSI-Switch delay, but we think the effort is on the right track. If you have any questions call or send me a message.

Hang tough. We think you'll like the output !

Next update will be sent on or about 15 September.

Vy 73,

J. Gordon Beattie, Jr.

MAIL
Unix: ihnp4!houxm!hou2d!n2dsy
Amateur: n2dsy @ kd6th-4/201

TELEPHONE
Office: 201-615-2506
Home: 201-387-8896

21. Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-08-26 23:16:55 UTC
From: wats@scicom.alphacdc.com
Message-ID: <1008@scicom.alphacdc.com>
Source record: 19947
Cross-posted to: sci.space.shuttle,rec.ham-radio

A recent issue of Monitoring Times lists the frequencies 259.700 and
296.800
MHz as Space Shuttle comm frequencies. The mode is given as AM voice.
Does anyone know if these are encryp, thi

22. Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-27 00:23:18 UTC
From: milo@ndmath.UUCP
Message-ID: <275@ndmath.UUCP>
Source record: 19948
Cross-posted to: rec.ham-radio,comp.dcom.modems

I wonder, with all the discussion of late about Hams setting up 9600 & 56K-baud links do you think at some point one of the larger ham stations (perhaps the ARRL ones?) might consider doing broadcasts of usenet news feeds? There could be several set times of day when the news would be sent, the data in the broadcasts could be overlapped in case someone missed part of it.

It would certainly save a lot of people a lot of phone bills, all you would need to receive the feeds would be a decent receiver and modem (since you wouldn't be transmitting you wouldn't need a license).

Since usenet is a not-for-profit non-commercial service I would imagine that broadcasting net feeds would fit in nicely with the Ham's non-commercial charter (and public intrest goals).

Not to mention a lot of computer people would probably get addicted to the Ham hobby and vice versa.

Greg Corson
...seismo!iuvax!ndmath!milo

23. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-27 15:19:11 UTC
From: narten@arthur.cs.purdue.edu.UUCP
Message-ID: <1810@arthur.cs.purdue.edu>
Source record: 19949
Cross-posted to: rec.ham-radio,comp.dcom.modems

In article <275@ndmath.UUCP> milo@ndmath.UUCP (Greg Corson) writes:
>I wonder, with all the discussion of late about Hams setting up 9600 & 56K-baud
>links do you think at some point one of the larger ham stations (perhaps the
>ARRL ones?) might consider doing broadcasts of usenet news feeds? There could
>be several set times of day when the news would be sent, the data in the
>broadcasts could be overlapped in case someone missed part of it.
>
>It would certainly save a lot of people a lot of phone bills, all you would need
>to receive the feeds would be a decent receiver and modem (since you wouldn't
>be transmitting you wouldn't need a license).

An underlying assumption being made here is that it is possible to get
end-to-end reliability without feedback from the receiver to the
sender. This cannot be done. Furthermore, packet loss of 50% or more is
not uncommon in packet radio, essentially requiring the receiver to send
acknowledgments indicating what he has and hasn't recieved.

Secondly, to get reliability between a single sender and multiple
receivers requires specialized protocols. TCP only works in the single
sender, single receiver paradigm. Several such protocols have been
discussed in the literature [Chang&Maxemchuk 83, Birman&Joseph 87],
but whether they are suitable for this environment (e.g. high packet
loss, longer delays than LANs) would have to be examined.
--
Thomas Narten
narten@cs.purdue.EDU or {ihnp4, allegra}!purdue!narten

24. Re: Public Digital Radio Service wireless modem proposal

Newsgroup: rec.ham-radio
Date: 1987-08-27 15:50:08 UTC
From: fyl@ssc.UUCP
Message-ID: <749@ssc.UUCP>
Source record: 19950
Cross-posted to: comp.dcom.modems,rec.ham-radio

In article <1398@killer.UUCP>, elg@killer.UUCP (Eric Green) writes:
> in article <77@splut.UUCP>, jay@splut.UUCP (Jay Maynard) says:
> ... and forced one of those introductory kits upon me,
> you know, the one with the Morse code tape in it. I read the first few pages,
> and listened to a few beeps, and then I said, "Why the hell am I sitting here
> listening to a damn tape beeping at me, when I could be doing something
> useful?!"

Can't argue with you. I was interested in getting my ticket from about
age 10. I got my technician ticket in high school because you are forced
to waste your time anyway so why not take a class where you can waste it
learing morse code. I then got back to my interest, electronics. I got
to build transmitters and remote base stations and test them out because
I now had my ticket. Did I ever use morse code? No. Did I learn about
electronics and further the state of the art? Yes and I hope so.

Next came college and 4 more wasted years. Sure enough, a class where
you got a B if you had a technician license by the end of the class,
A if you got a general or higher. As I already qualified for a B
if I didn't even attend class (really, I checked it out) I decided
to take the class time and try for an A. I got an advanced ticket
and 4 units of upper division A.

In the 20 years since that time I have built a lot of stuff, learned
a lot and, um, morse code, what's that?

--
Phil Hughes, SSC, Inc. P.O. Box 55549, +----------------+
Seattle, WA 98155 (206)FOR-UNIX | NO CONTRA AID! |
...!uw-beaver!tikal!ssc!fyl +----------------+

25. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-28 11:51:49 UTC
From: bill@westpt.usma.edu
Message-ID: <912@westpt.usma.edu>
Source record: 19951
Cross-posted to: rec.ham-radio,comp.dcom.modems

In article <275@ndmath.UUCP>, milo@ndmath.UUCP (Greg Corson) writes:
> I wonder, with all the discussion of late about Hams setting up 9600 & 56K-baud
> links do you think at some point one of the larger ham stations (perhaps the
> ARRL ones?) might consider doing broadcasts of usenet news feeds?

Broadcasting is not permitted by the Amateur service except for certain
situations (ie. morse code practice,emergencies).

> Since usenet is a not-for-profit non-commercial service I would imagine that
> broadcasting net feeds would fit in nicely with the Ham's non-commercial
> charter (and public intrest goals).

I have heard numerous people on the net say that USENET is non-commercial.
I have never been able to figure out where this idea came from. A look at
any single days articles would discount this concept -- new product
announcements -- equipment for sale -- job listings. I also see no way that
this could be in any way interpreted as public interest. I have doubts about
some of the other things hams do now in the name of "public service" but this
would be by far the furthest from the mark.

The obvious solution is the PDRS that has been discussed lately. It has more
promise than most people realize. The only problem is getting someone to
propose it and then set it up in a realistic manner.
I have been looking at this for some time now and would be interested in
hearing from others who are interested (by email please).

73's

bill gunshannon

UUCP: {philabs,phri}!westpt!bill PHONE: (914)446-7747
US SNAIL: Martin Marietta Data Systems RADIO: KB3YV
USMA, Bldg 600, Room 26 AX.25 KB3YV @ WA2RKN
West Point, NY 10996

26. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-28 23:54:56 UTC
From: ron@topaz.rutgers.edu
Message-ID: <14303@topaz.rutgers.edu>
Source record: 19952
Cross-posted to: rec.ham-radio,comp.dcom.modems

Every six months this comes up and every six months it
has to be explained. You can't use HAM RADIO for USENET.
First. Ham Radio must be explicitly non-commercial. Second,
there is this thing called "THIRD PARTY TRAFFIC." Unregulated
third-party traffic is explicly prohibitted. It would have
to be moderated, and we all know how well moderation has
been working out.

27. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-30 00:25:33 UTC
From: leonard@qiclab.pdx.com
Message-ID: <810@qiclab.pdx.com>
Source record: 19953
Cross-posted to: rec.ham-radio,comp.dcom.modems

I was under the impression that hams are _specifically_ forbidden to
broadcast. (ie point-to-point communications only). The only thing they are
allowed to send without a _specific_ recipient is a CQ (ie "anybody out there
want to talk").
Of course the ARRL station has an exemption for the code practice and
ARRL bulletin transmissions, but news would be stretching things a _lot_!!

28. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-08-31 17:56:17 UTC
From: henry@utzoo.UUCP
Message-ID: <8523@utzoo.UUCP>
Source record: 19954
Cross-posted to: rec.ham-radio,comp.dcom.modems

> ... You can't use HAM RADIO for USENET.
> First. Ham Radio must be explicitly non-commercial. Second,
> there is this thing called "THIRD PARTY TRAFFIC." Unregulated
> third-party traffic is explicly prohibitted...

Anyone who thinks these restrictions are Bad Things should consider that
in their absence, the ham bands would quickly cease to exist. The commercial
folks would promptly move in and crowd the hams out. Like it or lump it,
radio spectrum space is scarce and valuable, and there just isn't any way of
getting it for free. Those parts of it that are available free of charge, to
people like the hams (whose spectrum allocations are justified by their major
contributions to radio technology, by the way, not by "historical right"),
must have strings (of some kind) attached if they are to be preserved for
such uses. Even the Public Digital Radio Service proposals are going to
have to do something to keep the big boys from moving in.
--
"There's a lot more to do in space | Henry Spencer @ U of Toronto Zoology
than sending people to Mars." --Bova | {allegra,ihnp4,decvax,utai}!utzoo!henry

29. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-09-01 03:18:20 UTC
From: ron@topaz.rutgers.edu.UUCP
Message-ID: <14349@topaz.rutgers.edu>
Source record: 19955
Cross-posted to: rec.ham-radio,comp.dcom.modems

The ARRL does not have an exemption on broadcast. The rules permit one-way transmission for a few things. The priniciple in use here is "Messages of Interest to All Radio Amateurs". These messages are usually preferenced by the identifier QST. In addition to the ARRL code practice/bulletins, our local radio club used to have its own code practice and bulletins on two meters.

-Ron

30. Re: Ham radio & USENET

Newsgroup: rec.ham-radio
Date: 1987-09-01 04:08:42 UTC
From: clements@bbn.UUCP
Message-ID: <4008@bbn.COM>
Source record: 19956
Cross-posted to: rec.ham-radio,comp.dcom.modems

This is a flame about people posting pure nonsense to the net.
Why do people do things like this? It means you can't trust anything
you read on the net (probably including this message, too). Damn.
I have deleted the poster's name, since it's just one example of
a general problem - failure to engage brain before putting mouth in gear.

A totally uninformed poster writes:
>I was under the impression that hams are _specifically_ forbidden to
>broadcast.

True, but with a _specific_ definition of "broadcasting". At least s/he
admits it's an "impression", but why post if that's all it is? It
certainly doesn't help anyone.

>(ie point-to-point communications only).

Total hogwash.

>The only thing they are
>allowed to send without a _specific_ recipient is a CQ (ie "anybody out there
>want to talk").

Again, total hogwash.

Section 97.91 reads: "In addition to beacon operation and radio control
operation [discussed elsewhere in the rules], the following kinds of
one-way communications, addressed to amateur stations, are authorized
and will not be construed as broadcasting: (a) Emergency communications,
including bona fide emergency drill practice transmissions; (b) Information
bulletins consisting solely of subject matter having direct interest to
the amateur radio service as such; (c) Round-table discussions [...];
and (d) Code practice transmissions intended for persons learning
or improving proficiency in the international Morse code."

Section 97.113 prohibits broadcasting and defines it for the amateur radio
service: "Subject to the provisions of 97.91 [above], an amateur station shall
not be used to engage in any form of broadcasting, that is, the dissemination
of radio communications intended to be received BY THE PUBLIC [emphasis added]
directly or by the intermediary of relay stations, nor for the retransmission
by automatic means of programs or signals emanating from any class of station
other than amateur."

Nothing about point-to-point, or about specific recipients.

>Of course the ARRL station has an exemption for the code practice and
>ARRL bulletin transmissions,

Also total hogwash. Lots of other stations transmit bulletins
and code practice sessions. No exemption needed. (But see below *)

>but news would be stretching things a _lot_!!

Finally something true! But the reasons are the third-party rules and the
non-business rules, as previously posted.

* There IS a paragraph which was written to allow the ARRL to pay their
full-time operators. This is a narrow exception to the "Thou shalt not make
any money from thy ham station" rule, for stations which send at least 40 hours
per week of code practice and bulletins, and which meet some other
requirements. It allows only salaries for their time while sending such
bulletins and code practice. W1AW meets this paragraph and nobody else does,
though they could if they wanted. See section 97.112.

Sorry, this is getting a bit far from the original comp.dcom.modems article
about using Amateur Radio to distribute USENET articles. But I just
couldn't let such falsehoods stand.

/Rcc (K1BC)
clements@bbn.com

31. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-02 17:19:04 UTC
From: mike@ames.UUCP
Message-ID: <2646@ames.arpa>
Source record: 19957
Cross-posted to: sci.space.shuttle,rec.ham-radio

In article <1008@scicom.alphacdc.com> wats@scicom.alphacdc.com (Bruce Watson) writes:
>296.800
>MHz as Space Shuttle comm frequencies. The mode is given as AM voice.
>Does anyone know if these are encrypted?

Up through 51L, no encryption has been used, except on the military
flights. Many people have monitored the shuttle on simple police scanner
type radios.

I much rather prefer using my satillite dish though, to copy the NASA
video feeds. There you get 24 hr/day mission coverage with all downlink
video. Heaven to a space junkie like moi!

--
*** mike (powered by M&Ms) smithwick ***
"ever felt like life was a game, and
someone gave you the wrong instruction book?"
[discalimer : nope, I don't work for NASA, I take full blame for my ideas]

32. Re: Tube date info wanted

Newsgroup: rec.ham-radio
Date: 1987-09-10 03:26:57 UTC
From: larry@kitty.UUCP
Message-ID: <1991@kitty.UUCP>
Source record: 19958
Cross-posted to: rec.ham-radio,sci.electronics

In article <8709090720.AA02284@ucbvax.Berkeley.EDU>, MN007334@NDSUVM1.BITNET (Todd Enders WD0BCI) writes:
> I don't know if anyone can help me with this one (maybe a real old
> timer out there), but I would like to find out the approximate date of
> manufacture/use of the following vacuum tubes:
> Western Electric 101-F,
> Western Electric D-86327,
> Western Electric 102-D.
> ...
> My best guess would be 1910 to 1920. Any opinions? At any rate, they
> are real old (and most of them still work!). Many thanks in advance!

I'm not THAT old, so I did have help from a superb and fascinating
reference book: "A History of Engineering and Science in the Bell System",
published by Bell Labs.
The original design of the 101F was introduced in 1913 as the
"Type A" vacuum tube. The actual 101F, as an improved version, was
introduced in 1927. A quote from the above book about the above design:
"Historically, this is the oldest high vacuum thermionic tube used in
commercial communication (wired or radio) in the world."
The original design of the 102D was introduced in 1916 as the
"Type V" vacuum tube. The actual 102D, as an improved version, was
introduced in 1922.
The 101F had an amplification factor of about 6, where the 102D
had a MUCH :-) higher amplification factor of about 30.
I have no information on the D-86327 tube.

<> Larry Lippman @ Recognition Research Corp., Clarence, New York
<> UUCP: {allegra|ames|boulder|decvax|rutgers|watmath}!sunybcs!kitty!larry
<> VOICE: 716/688-1231 {hplabs|ihnp4|mtune|seismo|utzoo}!/
<> FAX: 716/741-9635 {G1,G2,G3 modes} "Have you hugged your cat today?"

33. Coax cable specifications (General info wanted)

Newsgroup: rec.ham-radio
Date: 1987-09-11 15:50:51 UTC
From: hovan@bgsuvax.UUCP
Message-ID: <1284@bgsuvax.UUCP>
Source record: 19959
Cross-posted to: sci.electronics,rec.ham-radio

Can anyone explain how coax cable specifications are derived?
Does 75ohm coax get its designation by ohms per thousand foot or is this
a rating given from a measurement of impedance at frequency?

Any technical information pertaining to coax cable will be appreciated.

John Hovan
BGSU
Hardware Support
hovan@bgsuvax.uucp

34. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-12 05:20:47 UTC
From: stu@splut.UUCP
Message-ID: <136@splut.UUCP>
Source record: 19960
Cross-posted to: sci.space.shuttle,rec.ham-radio

Shuttle space-to-ground communications are primarily conducted
via S-band digital signals. There are several channels around 2500 MHz,
with several different modes. Voice is digitized and stuffed into
the telemetry frames. There are several different formats. This is a
very hard signal to pick apart, to recover the voice.

There is an auxiliary UHF FM system for voice comm only.
It has three channels, and is designed to the parameters of a standard
UHF aircraft radio. One channel is the UHF aircraft distress (GUARD)
frequency, 243.0 MHz. This was included so that the Shuttle could talk
to the normal air traffic control system in emergencies. The UHF voice
system is normally set to one of the other two channels, and fed audio
in parallel with the S-band. Obviously, the UHF voice cannot be
encrypted, so it is turned off during secure flights.

I am reluctant to give the frequencies of the other two UHF channels,
because I don't know how many squirrels read this group. I trust 95%
of you, but one bad apple could screw up a major national asset. Sigh.
"Paranoia strikes deep" -- Buffalo Springfield.

A side note: You may have wondered (I did) why there's not much
first-hand info about the Shuttle on the net. Would you believe that
there is not a single Internet connection on site at Johnson Space
Center? As far as I know, there are no USENET connections, either.
JSC is not as far out on the leading edge as you may have been led
to believe. We are working on the problem, however.

Cheers!
Stewart Cobb, N5JXE
<< Insert the usual disclaimer >>

35. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-15 01:47:36 UTC
From: omega@ut-ngp.UUCP
Message-ID: <6253@ut-ngp.UUCP>
Source record: 19961
Cross-posted to: sci.space.shuttle,rec.ham-radio

....just out of curiosity, were the few attempts at ham-links to the Shuttle in orbit done in the 2-meter band, or was this also relegated to the rather demised 220 band?

OM

Disclaimer: 11-meters BACK to the Hams?? Yer KIDDING, right???

36. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-15 16:31:02 UTC
From: karn@faline.bellcore.com
Message-ID: <1389@faline.bellcore.com>
Source record: 19962
Cross-posted to: sci.space.shuttle,rec.ham-radio

> I am reluctant to give the frequencies of the other two UHF channels,
> because I don't know how many squirrels read this group. I trust 95%
> of you, but one bad apple could screw up a major national asset. Sigh.
> "Paranoia strikes deep" -- Buffalo Springfield.

The shuttle comm frequencies are public information. From my Rockwell
STS-1 press kit, the three UHF AM frequencies are: 296.8 (primary),
259.7 (secondary), and 243.0 Mhz (emergency).

The S-band frequencies are:

2287.5 Mhz (PM downlink - primary)
2217.5 Mhz (PM downlink - secondary)
2250.0 Mhz (FM downlink - primary)
2205.0 Mhz (FM downlink - development flight instrumentation)
2106.4 Mhz (PM uplink - primary)
2041.9 Mhz (PM uplink - secondary)
1831.8 Mhz (PM uplink - DoD primary)
1775.7 Mhz (PM uplink - DoD secondary)

The links operate in either a high speed or low speed mode:

Uplink
High speed Low speed
voice 2 @ 32 kb 1 @ 24kb
command 1 @ 8 kb 1 @ 8 kb
total 72 kb 32 kb

Downlink

voice 2 @ 32 kb 1 @ 32 kb
telemetry 1 @ 128 kb 1 @ 64 kb
total 192 kb 96 kb

As Ron said earlier, the data stream is multiplexed stuff with digital
voice and telemetry. However, all of the data formats are also public
information. I have a NTIS report on the performance of the
communications system during the STS-2 ascent, and in an appendix are
complete details on everything you need - frame sync vectors, channel
assignments, etc. In addition to the digital data, the PM downlinks
repeat a 1.7 Mhz ranging tone. For the non-DoD uplinks, the carrier
frequency of the downlink transmitter is phase locked to 240/221 times
the uplink frequency, also for tracking. While certainly challenging, this
is not outside of the capabilities of a dedicated amateur.

The FM downlinks can carry a variety of stuff, e.g., television [probably analog], 128 kb/s real-time engine data or 192 kb/s playbacks of recorded data.

Phil

37. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-15 17:00:32 UTC
From: mac@idacrd.UUCP
Message-ID: <281@idacrd.UUCP>
Source record: 19963
Cross-posted to: sci.space.shuttle,rec.ham-radio

in article <6253@ut-ngp.UUCP>, omega@ut-ngp.UUCP (Omega.Mosley`) says:
> Xref: idacrd sci.space.shuttle:298 rec.ham-radio:2496
>
>
> ....just out of curiosity, were the few attempts at ham-links to the Shuttle
> in orbit done in the 2-meter band, or was this also relegated to the rather
> demised 220 band?
>
>
>
> OM
>

Two meters and FM. We haven't lost 220 Mhz YET. The FCC hasn't ruled
and frankly they were dumbfounded at the overwhelming response from the
amateur community.

Bob
.

38. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-15 21:31:26 UTC
From: winter@apple.UUCP
Message-ID: <6245@apple.UUCP>
Source record: 19964
Cross-posted to: sci.space.shuttle,rec.ham-radio

In article <6253@ut-ngp.UUCP> omega@ut-ngp.UUCP (Omega.Mosley`) writes:
>....just out of curiosity, were the few attempts at ham-links to the Shuttle
>in orbit done in the 2-meter band, or was this also relegated to the rather
>demised 220 band?

"Attempts"? "Few attempts"? That'll be news to the hundreds of hams
who've talked to the shuttle. Owen Garriott alone made over 350 2-way
contacts--and that was just the first of three hams-in-space.

Anyway, yes, they were on 2m. (At least mostly--anybody know if
DL-1 used other bands?)

Patty
--
Patty Winter N6BIS (408) 973-2814
M/S 2C, Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014
{decwrl,nsc,sun,dual}!apple!winter

39. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-16 05:16:06 UTC
From: karn@faline.UUCP
Message-ID: <1393@faline.bellcore.com>
Source record: 19965
Cross-posted to: sci.space.shuttle,rec.ham-radio

> ....just out of curiosity, were the few attempts at ham-links to the Shuttle
> in orbit done in the 2-meter band, or was this also relegated to the rather
> demised 220 band?

The Ham-in-Space operation took place under the Amateur Satellite
Service rules, not the regular Amateur Service. The former allows the
use of only certain sections of certain amateur bands, generally those
that are allocated to the amateur service on a worldwide basis. The
220 Mhz amateur band doesn't exist outside of Region 2, so it is not
available to the Amateur Satellite Service.

Phil

40. Re: Coax cable specifications (General info wanted)

Newsgroup: rec.ham-radio
Date: 1987-09-16 12:33:45 UTC
From: rep@genrad.UUCP
Message-ID: <1346@genrad.UUCP>
Source record: 19966
Cross-posted to: sci.electronics,rec.ham-radio

In article <1284@bgsuvax.UUCP> hovan@bgsuvax.UUCP (John Hovan) writes:
>
> Can anyone explain how coax cable specifications are derived?
>Does 75ohm coax get its designation by ohms per thousand foot or is this
>a rating given from a measurement of impedance at frequency?
>
The characteristic impedance of a coax cable depends primarily on its
geometry (log of ratio of shield diameter to inner conductor diameter)
and the permittivity (or dielectric constant) of the dielectric material
separating the conductors. It can also be expressed in terms of the
inductance per-unit-length and capacitance per-unit-length of the cable.

For low-loss cables:

Characteristic impedance: (ohms)
Zo=sqrt(L / C)
where Zo is in ohms, L is in henrys/meter
and C is in farads/meter.
or Zo= 138 * sqrt (mu / epsilon) * log10 (b / a)
mu = permeability of dielectric in
henrys/meter; epsilon = permittivity of
dielectric in farads/meter; b = shield diam;
a = inner conductor diam.

Propagation velocity: (meters-per-second)
Vp = 1 / sqrt(L * C)
or Vp = 3.0E8 / sqrt (mu * epsilon)

Your 75 ohm coax with a resistive load of 75 ohms will look like
75 ohms resistive at the other end independent of the frequency and
the length of the line. If terminated in any other load, the driving
end will see a complex impedance which depends on the length of the
cable and the frequency (actually the distance in wavelengths modulo
1/2 wavelength). Also, if the line is terminated in its characteristic
impedance, there are no reflections from the load. Really, these are
equivalent statements.

For the time it takes for the applied signal to get to the load and
back, you will see a 75 ohm resistive load regardless of what's on
the other end of the cable.

You can use any of the above properties to determine the Zo empirically
depending on what you have for instrumentation.

Note that cables having dielectrics containing newt's eyes and bat's wings have been shown to give an improved reproduction of the polish on the floor of the sound stage. Unfortunately, these cables must be made only during a particular phase of the moon since the moon phase at time of manufacture has important effects on the phase effects in the cable. This restriction results in limited production and great cost.

To appreciate the importance of phase errors resulting from differences in propagation velocity with frequency, you should observe that speaker cables might have a delay corresponding to a phase shift of a whole 0.1 degrees at 20khz. The fact that this total phase shift (let alone variations in it) is negligible compared to phase errors in any realizable phono-cartridge equalization circuit should, of course, not disturb you.

pete peterson
{decvax,linus,wjh12,mit-eddie,masscomp}!genrad!rep

41. Re: Coax cable specifications (General info wanted)

Newsgroup: rec.ham-radio
Date: 1987-09-16 21:24:08 UTC
From: henry@utzoo.UUCP
Message-ID: <8593@utzoo.UUCP>
Source record: 19967
Cross-posted to: sci.electronics,rec.ham-radio

> Can anyone explain how coax cable specifications are derived?
> Does 75ohm coax get its designation by ohms per thousand foot or is this
> a rating given from a measurement of impedance at frequency?

Sort of the latter. Consider a longish cable with *something* at the
other end. Suddenly we apply a voltage to the near end. How much current
flows? Remember that speed-of-light lag means that the impedance at the
other end is unknown and cannot influence the answer! The answer is that
the properties of the cable (and its immediate environment) determine a
"characteristic impedance" which is what you plug into Ohm's Law to find
the instantaneous current.

Of course, after speed-of-light lag has had time to occur, then there will
be trouble if the impedance at the other end doesn't equal the cable's
characteristic impedance. What happens then is "reflections", which
propagate back (and forth) until everything eventually settles down to
the steady-state situation that you would expect if you ignored the
finite speed of light. Unfortunately, reflections are usually undesirable,
because they can be mistaken for signal changes when fast circuits are
involved.

To avoid reflections, the basic approach is to keep the same impedance all
the way along, from the transmitter output to the other end. In particular,
this means cable with fairly constant characteristic impedance and a
terminator of that same impedance at the other end. The c.i. of a single
wire varies a lot depending on what is near it, although various tactics
can limit the variations. Coax's c.i. is largely insensitive to its
surroundings, making a constant-impedance system much easier to build.

Some of the serious electron-pushers may want to correct or elaborate on
the above; I'm just a software type with one foot in hardware...
--
"There's a lot more to do in space | Henry Spencer @ U of Toronto Zoology
than sending people to Mars." --Bova | {allegra,ihnp4,decvax,utai}!utzoo!henry

42. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-17 03:38:55 UTC
From: robert@uop.UUCP
Message-ID: <535@uop.UUCP>
Source record: 19968
Cross-posted to: sci.space.shuttle,rec.ham-radio

the frequencies are not confidential information, and are available.
they have sufficiently protected themselves by the digitization of
the S band yacking. the JSC was on the net, at least i thought i read
somethings at some times from jsc (as well as jpl)

43. Re: Coax cable specifications (General info wanted)

Newsgroup: rec.ham-radio
Date: 1987-09-17 15:38:27 UTC
From: ron@topaz.rutgers.edu
Message-ID: <14815@topaz.rutgers.edu>
Source record: 19969
Cross-posted to: sci.electronics,rec.ham-radio

Yes, remember that the cable termination is to make it appear infinitely long.

44. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-18 23:30:58 UTC
From: mike@ames.UUCP
Message-ID: <2806@ames.arpa>
Source record: 19970
Cross-posted to: sci.space.shuttle,rec.ham-radio

In article <6253@ut-ngp.UUCP> omega@ut-ngp.UUCP (Omega.Mosley`) writes:

>....just out of curiosity, were the few attempts at ham-links to the Shuttle
>in orbit done in the 2-meter band, or was this also relegated to the rather
>demised 220 band?

The two ham-in-space missions (STS-9 and STS-41somethingorother) were
both on 2m, partly because the 2m equipment was donated to the project,
and partly because they wanted the widest possible coverage.

Even common police scanners could've picked them up.

Oh, and by the way, the open shuttle frequencies have been published
many times so I don't think that the fbi is going to get me for announcing
them. If I havn't had a parity error, the main one is 296.8 mhz with
an alternate of 253.--error--. OOps gotta go back and check up on that one.

--
*** mike (powered by M&Ms) smithwick ***
"ever felt like life was a game, and
someone gave you the wrong instruction book?"
[discalimer : nope, I don't work for NASA, I take full blame for my ideas]

45. Re: Space Shuttle Communications

Newsgroup: rec.ham-radio
Date: 1987-09-19 00:01:08 UTC
From: jay@splut.UUCP
Message-ID: <151@splut.UUCP>
Source record: 19971
Cross-posted to: sci.space.shuttle,rec.ham-radio

In article <6253@ut-ngp.UUCP>, omega@ut-ngp.UUCP (Omega.Mosley`) writes:
> ....just out of curiosity, were the few attempts at ham-links to the Shuttle
> in orbit done in the 2-meter band, or was this also relegated to the rather
> demised 220 band?

The several links to the Shuttle (including the first TV transmission TO a
manned spacecraft) were done on 2 meters.

As for the 'rather demised' 220 band: (wait one while I put on my President,
Texas VHF-FM Society hat on:)
OVER MY DEAD BODY!
There's much more ham activity on 220 than anyone gives us credit for. Most
of the ruckus being raised by the commercials who want to steal this chunk
of ham spectrum got their info from the ARRL Repeater Directory. Of course,
they didn't realize (or chose to forget) that there's much more to ham radio
than FM and repeaters...

(Apologies to pure sci.space.suuttle readers. Followups on the 220 grab,
please edit the groups: line.)

--
Jay Maynard, K5ZC (@WB5BBW)...>splut!< | uucp: hoptoad!academ!uhnix1!splut!jay
Never ascribe to malice that which can | or sun!housun!nuchat!--^
be adequately explained by stupidity. | GEnie: JAYMAYNARD CI$: 71036,1603
The opinions herein are shared by neither of my cats, much less anyone else.

46. Switching Power Supplies

Newsgroup: rec.ham-radio
Date: 1987-10-21 17:16:36 UTC
From: hovan@bgsuvax.UUCP
Message-ID: <1340@bgsuvax.UUCP>
Source record: 19972
Cross-posted to: sci.electronics,rec.ham-radio

While working with various high quality electronic components, I have noticed the utilization of switching power supplies. I know these supplies dissipate less heat and work by somehow increasing the input frequency, but are these supplies considered new technology to replace humming transformers? More importantly can anyone take the time to explain the theory behind how these supplies actually work, and why they are used rather than the traditional transformer/diode bridge type?

John Hovan
BGSU
Hardware Support
hovan@bgsuvax.uucp

47. Re: Switching Power Supplies

Newsgroup: rec.ham-radio
Date: 1987-10-26 18:35:34 UTC
From: robert@csustan.UUCP
Message-ID: <995@csustan.UUCP>
Source record: 19973
Cross-posted to: sci.electronics,rec.ham-radio

In article <1340@bgsuvax.UUCP>, hovan@bgsuvax.UUCP (John Hovan) writes:
>
>
>
> While working with various high quality electronic components, I have
> noticed the utilization of switching power supplies. I know these supplies
> dissipate less heat and work by somehow increasing the input frequency,
> but are these supplies considered new technology to replace humming
> transformers? More importantly can anyone take the time to explain the theory
> behind how these supplies actually work, and why they are used rather than
> the traditional transformer/diode bridge type?

The switching power supply has been developed in response to demand for
lightweight, efficient & regulated power supplies. Transformer core
size is related to the operating frequency due to their saturation
characteristics. 60Hz transformer cores are huge, with a lot of wire,
and are heavy and lossy. Linear regulators are also very lossy. Switching
supplies operate in the frequency range of 20KHz to 1MHz with lightweight
cores, using pulse modulation techniques for efficient regulation.
Essentially switchers they work like this:

The ac line voltage is directly rectified and filtered to produce a raw dc.
This dc is fed to a switching element, ie., transistor, FET, SCR.
This device will chop the raw dc at the operating frequency resulting
in a high voltage chopped waveform. This is waveform is fed to a
transformer, rectified, and integrated to a smooth dc. Regulation is
accomplished by monitoring the output voltage and varying the duty cycle
of the high voltage chopped waveform. (hence the term PWM, Pulse Width
Modulator).

An analogy might be to switch a light off and on very fast, so that one
can't see the switch cycles. The thermal mass and the eye would be
the integrator, varying the duty cycle would control the intensity.

Many types of switchers exist:
Half and full bridge, push pull, Cuk, flyback, series-resonant,
forward converter, etc.

A good book is: High Frequency Switching Power Supplies,
George Chryssis, McGraw-Hill #ISBN 0-07-010949-4

--
Robert Zeff (209) 577-4268 voice, FAX: (209) 577-8548
ZAPCO {lll-lcc,lll-crg}!csustan!zapco!robert
2549 Yosemite Blvd Ste. E {lll-lcc,lll-crg}!csustan!zhome!robert

Modesto, Ca. 95354 {lll-lcc,lll-crg}!csustan!robert

48. Re: Switching Power Supplies

Newsgroup: rec.ham-radio
Date: 1987-10-27 21:26:59 UTC
From: henry@utzoo.UUCP
Message-ID: <8835@utzoo.UUCP>
Source record: 19974
Cross-posted to: sci.electronics,rec.ham-radio

> ... switching power supplies. I know these supplies
> dissipate less heat and work by somehow increasing the input frequency,
> but are these supplies considered new technology to replace humming
> transformers? More importantly can anyone take the time to explain the theory
> behind how these supplies actually work, and why they are used rather than
> the traditional transformer/diode bridge type?

A switching supply replaces not just the transformer and diode bridge, but
also the regulators that supply precise output voltages. That's important.
The standard sort of regulator for the old linear (transformer/diode) supply
holds its output at a given voltage by imposing enough resistance internally
to drop the input voltage to the desired output voltage. The trouble is that
passing high currents through a resistance generates a lot of heat and wastes
a lot of power.

A switching supply, on the other hand, turns the flow on and off at a high
frequency such that the *average* output voltage is the desired one, and
then filters the result to get a (more or less) smooth DC voltage again.
The key point here is that the control transistors are either fully off (no
current flowing, so no power loss) or fully on (minimum voltage drop through
the transistor, so minimal power loss), not halfway between as they usually
are in a linear supply. This is much more efficient. As a side issue, if
one does want to use a transformer -- usually desirable, partly for
isolation from the AC line and partly to make design easier -- the switching
can be done at high frequencies where physically-small transformers are
efficient. This eliminates the great lump of metal in the corner. :-)

Both types of supplies have their advantages. Switchers are smaller,
lighter, and more efficient. On the other hand, their output tends to be
noisier, they have to be carefully designed to minimize radiated interference,
they are more complex, and they often regulate poorly when asked to run at
much less than full output. Generally, switchers come out better for
powering big pieces of digital equipment (which have semi-predictable power
demands and don't mind a bit of noise) and linears come out better for lab
work (highly variable demands), analog work (noise sensitivity), and small
equipment (lower complexity).

I think the above is relatively accurate, although I'm not an expert on
this and may be wrong on some details.
--
PS/2: Yesterday's hardware today. | Henry Spencer @ U of Toronto Zoology
OS/2: Yesterday's software tomorrow. | {allegra,ihnp4,decvax,utai}!utzoo!henry

49. Re: Plate-through pc boards

Newsgroup: rec.ham-radio
Date: 1987-10-30 14:27:46 UTC
From: ornitz@kodak.UUCP
Message-ID: <985@kodak.UUCP>
Source record: 19975
Cross-posted to: rec.ham-radio,sci.electronics

In article <8710300607.AA17884@ucbvax.Berkeley.EDU> hoffman@pitt.CSNET (Bob Hoffman) writes:
>
>I, for one, would like to know the exact process by which plated-through
>holes are made on double-sided boards, "nasty" chemicals and all. They
>can't be any worse than the stuff they're playing with in the Chemistry
>Building next door...
>
> ---Bob.
>
The following is from memory so it may contain a few holes. :-)

You may start with either a bare board or a double sided one. The holes are first drilled using silcon carbide bits for smooth edges and close tolerances (more on this later).

The drilled board is soaked in a catalyst solution (I believe an organometallic salt of palladium but I am not sure) to sensitize the holes for the next step which is the electroless plating of copper. A very controlled thickness of electroless copper is produced in the holes (and over the entire board).

The board is then electroplated to produce a hard copper finish and build up the copper thickness in the holes. Note that both plating steps reduce the diameter of the holes. This is a critical step in the process and is why the close tolerances are needed.

Conventional resist is then applied and the board is plated with solder where the traces should be. After solder plating and resist removal, the board is etched to remove the copper not protected by the solder.

Finally, a solder mask is generally applied.

As you can see, the basic process is not too complicated. However, a number of cleaning steps in between the above have been left out. Also, a fair degree of experience is needed to control the various plating steps. Dimensional control of one to two mils is needed even on crude boards.

I would suggest that the production of plated-through holes is beyond the capabilities of even the most dedicated home experimenter. I generally pay a commercial PC house about $250-$500 for set-up charges for a typical board about 6x6". After the initial set-up, the price per board is generally $10 to $25. With these prices, it is not worth the hassle to even try to produce my own plated-through holes.

If you are careful in your design, you can often eliminate the need for most plated-through holes. Use wire-wrap sockets (or even better - machine pins)

so the sockets can be lifted enough from the board to solder both sides; also it is often possible to extend the traces next to inaccessible components so a wire jumper can be used to make the through connection.

For a better discussion of all of this, buy Steve Kasten's book, "Electronic Prototype Construction" (ISBN: 0-672-21895-X, Howard W. Sams, pub.) for $18 or so. Several net users have commented favorably on this book. I am prejudiced because Steve is a close personal friend, but I feel the book is well written and very practical. I can also pass on questions to Steve and send replies back over the net.
Barry WA4VZQ


```
-----------------
| ___ ________ |
| | / / | | Dr. Barry L. Ornitz UUCP:...!rochester!kodak!ornitz
| | / / | | Eastman Kodak Company
| |< < K O D A K| | Eastman Chemicals Division Research Laboratories
| | \ \ | | P. O. Box 1972
| |__\ \________| | Kingsport, TN 37662 615/229-4904
| |
-----------------
```

50. A question

Newsgroup: rec.ham-radio
Date: 1987-11-04 22:04:53 UTC
From: cook@trane.UUCP
Message-ID: <310@trane.UUCP>
Source record: 19976
Cross-posted to: rec.ham-radio,sci.electronics

```
Just would like to toss a question out in space....

Would anybody be interested in seeing a group for Shortwave
DX-ing called rec.radio.dx-ing?

Let's take a count.............
```

51. Re: A question (and back to medium wave DX)...

Newsgroup: rec.ham-radio
Date: 1987-11-16 05:03:53 UTC
From: cuccia@eris.BERKELEY.EDU
Message-ID: <5927@jade.BERKELEY.EDU>
Source record: 19827
Cross-posted to: rec.ham-radio,sci.electronics

In article <310@trane.UUCP> cook@trane.UUCP (Eric Cook) writes:
>
> Would anybody be interested in seeing a group for Shortwave
> DX-ing called rec.radio.dx-ing?
>

Sure, sounds like a thought, but why limit it to Shortwave DXing?
I'm more partial to, for example, Mediumwave, Longwave, and VHF
DX. Count me in.

On the topic of mediumwave/longwave DX, I have a trio of questions:
(1) does anybody out there have any experience with amplified loop
antennas (for example, the McKay-Dymek/Stoner and Palomar Engineering
products)? How do they compare with, for example, a large air-wound
loop?

(2) Does anybody out there have any good suggestions for building
loops for MW/LW DX?

(3) I own a Sony ICF-2010. Wonderful receiver, with the possible
exception of its not allowing users to hook up external antennas
for frequencies below 1.6 MHz. Has anybody out there successfully
hacked their 2010s to get around this limitation?

Thanks in advance,
--Nick
==
Remember, when you play Global Thermonuclear War, you don't get best of seven...

Nick Cuccia
cuccia@mica.berkeley.edu (Internet)
{bellcore,cbosgd,decvax}!ucbvax!mica.berkeley.edu!cuccia (UUCP)
==

52. Re: A question (and back to medium wave DX)...

Newsgroup: rec.ham-radio
Date: 1987-11-17 05:58:59 UTC
From: haynes@ucscc.UCSC.EDU.ucsc.edu
Message-ID: <1154@saturn.ucsc.edu>
Source record: 19828
Cross-posted to: rec.ham-radio,sci.electronics

In article <5927@jade.BERKELEY.EDU> cuccia@eris.BERKELEY.EDU (Nick Cuccia) writes:
>In article <310@trane.UUCP> cook@trane.UUCP (Eric Cook) writes:
>>
>> Would anybody be interested in seeing a group for Shortwave
>> DX-ing called rec.radio.dx-ing?
>>
>
>Sure, sounds like a thought, but why limit it to Shortwave DXing?
>I'm more partial to, for example, Mediumwave, Longwave, and VHF
>DX. Count me in.

Well, why limit it to dx? Is there any interest in a group for
SWL-ing (and MWL-ing and LWL-ing and VHF-ing)? What would you call
it then?

haynes@ucscc.ucsc.edu
haynes@ucscc.bitnet
..--\
289hartharthlang

53. Re: A question (and back to medium wave DX)...

Newsgroup: rec.ham-radio
Date: 1987-11-18 19:45:49 UTC
From: winter@apple.UUCP
Message-ID: <6770@apple.UUCP>
Source record: 19829
Cross-posted to: rec.ham-radio,sci.electronics

In article <1154@saturn.ucsc.edu> haynes@ucscc.UCSC.EDU (Jim Haynes) writes:
>In article <5927@jade.BERKELEY.EDU> cuccia@eris.BERKELEY.EDU (Nick Cuccia) writes:
>>In article <310@trane.UUCP> cook@trane.UUCP (Eric Cook) writes:
>>> Would anybody be interested in seeing a group for Shortwave
>>> DX-ing called rec.radio.dx-ing?
>>Sure, sounds like a thought, but why limit it to Shortwave DXing?
>Well, why limit it to dx? Is there any interest in a group for
>SWL-ing (and MWL-ing and LWL-ing and VHF-ing)?

I'd like to cast an informal vote for keeping the SWL and related
discussions here on rec.ham-radio. I certainly don't feel that this
newsgroup is so heavily loaded that we need to weed out the stuff
that isn't strictly ham-related. Anyway, I enjoy hearing about
the SWL and non-ham DX stories. Ask me sometime about the tape
we received at KKHI (San Francisco; 10KW) from the SWLers in
Finland....

Patty

--
Patty Winter N6BIS (408) 973-2814
M/S 2C, Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014
{decwrl,nsc,sun,dual}!apple!winter

54. Re: Fox (transmitter) hunting story

Newsgroup: rec.ham-radio
Date: 1987-11-22 12:08:07 UTC
From: khayo@sonia.cs.ucla.edu
Message-ID: <9360@shemp.UCLA.EDU>
Source record: 19830
Cross-posted to: rec.ham-radio,sci.electronics

Bob Parnass writes about his wireless mike adventure -
something just like that happened to me recently, but it
was *clearly* a bug & I seriously considered calling the
cops or tracing the house, until I started thinking about
all the possibilities (man checking on his wife from a car
parked nearby, FBI investigation etc.; I read a lot of trashy
books these days.)
Finally, after 2 days it occurred to me that it was one of the
wireless intercoms that some parents use to monitor their kids'
rooms. The 1/2-funny thing was that the child involved sounded like
a 10-year old, and I wonder if the thing will still be in her
bedroom when she's 16 (Johnny, no, please, what if my parents
hear us?...) Just wondering.

>>>>---------------> khayo@MATH.ucla.edu

55. Fox (transmitter) hunting story

Newsgroup: rec.ham-radio
Date: 1987-11-22 18:36:56 UTC
From: parnass@ihuxz.ATT.COM
Message-ID: <2440@ihuxz.ATT.COM>
Source record: 19831
Cross-posted to: rec.ham-radio,sci.electronics

x
While tuning around on my ICOM R-7000 receiver last Sunday, I came across an odd signal on 171.125 MHz. It sounded like the banter of a teenaged boy and girl. As I listened more closely, I could detect music and other conversation in the background. Somebody mentioned an Oswego florist.

The signal was transmitted continuously, unlike the back and forth transmissions in a two-way radio conversation. Was this a "bug" planted by some cloak and dagger federal agency? A maverick cordless telephone?

I phoned another radio enthusiast friend in town to see if he could hear the signal, but he wasn't home.

Being a curious guy, I hopped into my truck and programmed the mobile Bearcat 260 scanner. My mobile antenna, a 19" whip inside the truck, isn't very sensitive. Even so, the signal got stronger as I drove the 1.5 miles from my house into Oswego (Illinois).

I found the source of the signal after a few minutes of driving around town, and listening to the activity. The mysterious signal was from a wireless microphone being used for a play at Oswego High School! More tuning the next day uncovered 2 other Oswego High School wireless mike frequencies: 170.225 and 171.825 MHz.

A word to you security-minded types: If your company uses a wireless microphone, then your competitors are in a position to say "We hear you!"
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Bob Parnass, Bell Telephone Laboratories - ihnp4!ihuxz!parnass - (312)979-5414

56. Max Headroom is ALIVE!, Seen during Doctor WHO broadcast

Newsgroup: rec.ham-radio
Date: 1987-11-24 15:44:38 UTC
From: tedk@ihuxv.UUCP
Message-ID: <2253@ihuxv.ATT.COM>
Source record: 19832
Cross-posted to: chi.general,rec.arts.drwho,rec.arts.tv,rec.arts.sf-lovers,rec.ham-radio,sci.electronics

This is a re-post of this article. Please forgive me if you have seen this article before. I posted it yesterday.

Television Transmitter Link Break-in

Max Headroom made a guest appearance on the WGN news last night and then later during the WTTW broadcast of Doctor WHO. Was it really Max Headroom, Or a "pirate" television hacker wanting to be seen. Sunday night during the sports portion of the WGN news (channel 9, Chicago), Max Headroom was seen on WGN's transmitter microwave feed. A few moments later, technicians switched over to an alternate microwave link. Max was removed from the air. Then later Sunday night, About 12 minutes into WTTW's (channel 11, Chicago) broadcast of Doctor WHO, There was an interuption in the program, then Max Headroom appeared. This time Max was able to be heard, and he wasn't happy. Max was being spanked with a fly-swatter.

A Doctor WHO fan who was interviewed was happy to hear from Max, after Max Headroom had been canceled from ABC.

Security officers at the Sears Tower reported someone had entered the remote transmitter facility atop the 100+ floor building.

The FCC is investigating.

Note: The remote transmitter for WGN is atop the John Hancock and the transmitter for WTTW is atop the Sears Tower.

Information from various news broadcasts

Ted G. Kekatos
backbone!ihnp4!ihuxv!tedk
AT&T Bell Laboratories, Indian Hill South, IX-1F-460
Naperville & Wheaton Roads - Naperville, Illinois. 60566 USA

57. Re: A question (and back to medium wave DX)...

Newsgroup: rec.ham-radio
Date: 1987-11-24 18:09:49 UTC
From: tech@auvax.UUCP
Message-ID: <419@auvax.UUCP>
Source record: 19833
Cross-posted to: rec.ham-radio,sci.electronics

Definitely keep the SWL stuff here.

Those Fins take medium wave DXing seriously. They go off into the tundra with lots of gear and 250' long wires and things.

When I worked at CHAB radio in Moose Jaw (10KW 800KHz) I had the pleasure of dechipering a 30 second tape loop from Finland... Our signal was buried under a 100 odd KW Russian and could barely be heard. I didn't get out the call sign but the voice was familiar and it spoke English.

I'll take their word for it :-)

********* 73
********** Richard Loken VE6BSV
. ****
.. **** Athabasca University
.... **** Athabasca, Alberta Canada
..........**** ihnp4!alberta!auvax

58. Re: "Numbers" stations (possible answers)

Newsgroup: rec.ham-radio
Date: 1987-12-05 13:39:50 UTC
From: parnass@ihuxz.ATT.COM
Message-ID: <2475@ihuxz.ATT.COM>
Source record: 19834
Cross-posted to: rec.ham-radio,sci.crypt

In article <123.003505@adam.DG.COM>, Pete_Simpson@MERCURY.CEO.DG.COM writes on hearing shortwave broadcasts of coded number groups:

> I was listening to one of these last night and the question
> popped up again, "What are these people doing?" To my knowledge, no
> one has ever come up with a reasonable explanation of why a station
> would read off code groups in <English/Spanish/Italian/German> using
> AM modulation.....
> Thanks...Pete Simpson, KA1AXY

These "numbers" stations may be found on several frequencies, with both males and females speaking in many languages.

They remain the subject of debate among SWLs, and attempts by hobbyists to break the coded messages have been unsuccessful. One prevailing theory is that they are "spy" stations, sending orders to operatives in foreign countries. Another theory is that they are associated with smuggling activities, like ordering, and arranging for drug deliveries.

I agree with the "spy" theory. Monitoring Times reported a few years ago how an SWL traced down the source of one numbers station.1 Using a Kenwood R1000 shortwave receiver in his car, the SWL found the signals came from within the Warrenton Training Center, a U.S. Army facility in Remington, VA, operated by an arm of the intelligence community.

Another numbers station was reportedly located in the restricted area of Nauen in East Germany.2

The FCC won't talk much about these signals, but I bet you dollars to donuts that the NSA, USN, CIA, etc. know exactly what their purpose is, and monitor them (and operate some) closely. At the very least, our government knows the geographic locations of these transmitters.

The use of double sideband, reduced carrier for transmission allows the operative to use a cheap, readily obtainable short wave receiver (e.g., Radio Shack, Panasonic, Sony). Possession of such a common receiver would not draw attention to the owner.

Here are just a sampling of numbers stations I've heard. My most interesting numbers logging is the station on 3.780

MHz. Its strength implied a location in North America.3

3.7800 call?_____unidentified: numbers stn, am, yl/Spanish, 5 digit, as s
trong as the strongest ham signals on the band at the ti
me. Two hams in QSO on same freq in lsb discussing this
signal, 0704Z
[location?] (B. Parnass)

5.8070 call?_____unidentified: numbers stn, am, yl/Spanish, "1234567890 3
46 346 346 1234567890 ..."
[location?] (B. Parnass)

6.8020 call?_____unidentified: numbers stn, am, yl/Spanish, 4 digit, 12/0
2/86 @0210Z
[location?] (B. Parnass)

call?_____unidentified: numbers stn, am, yl/Spanish, 4 digit, xmti
ng concurrently with KKN50 on 6.9252 cw, both were the s
trongest signals on the band at s9+20 db, 5/15/85 @0220Z
[location?] (B. Parnass)

6.9254 KKN50_____US: State, likely at the National Communications System
installation at Warrenton Training Center, embassy-relat
ed?, xmting concurrently with yl am Spanish language 4 d
igit numbers station at 6.802 MHz, both were the stronge
st signals on band at s9+20 db, cw, 5/15/85 @0220Z
[Remington, VA] (B. Parnass)

9.0740 call?_____unidentified: numbers stn, female reading numbers in Spa
nish, "229 229 229 1234567890...", xmtd some tones also,
am, 12/07/86 @0110Z
[location?] (B. Parnass)

18.1950 call?_____unidentified: numbers stn, female repeating "Hotel Kilo"
4 times, then 10 seconds of musical tones. Changes to G
erman 5 digit number groups at 1615Z. This xmsn type pur
portedly originates from Nauen E. Germany, usb, 04/05/87
@1601Z
[location?] (B. Parnass)

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1. See "U.S. Numbers Station Found!", by Bob Grove
Monitoring Times, April 1984.

2. See "Spy Numbers Transmitter Located!", by John H.
Demmitt, Monitoring Times, May 1983.

3. I suppose there is a possibility that an American
prankster with ham equipment recorded the transmission
on another frequency, and played it back on 75 meters.

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Bob Parnass, Bell Telephone Laboratories - ihnp4!ihuxz!parnass - (312)979-5414

59. Re: "Numbers" stations (possible answers)

Newsgroup: rec.ham-radio
Date: 1987-12-06 05:54:31 UTC
From: mlm@NL.CS.CMU.EDU
Message-ID: <455@PT.CS.CMU.EDU>
Source record: 19835
Cross-posted to: rec.ham-radio,sci.crypt

In article <2475@ihuxz.ATT.COM>, parnass@ihuxz.ATT.COM (Bob Parnass, AJ9S) writes:
> In article <123.003505@adam.DG.COM>, Pete_Simpson@MERCURY.CEO.DG.COM
> writes on hearing shortwave broadcasts of coded number groups:
>
> > "What are these people doing?"
>
> One prevailing theory is that they are "spy" sta-
> tions, sending orders to operatives in foreign countries.

Bamford's excellent book about the NSA "The Puzzle Palace" confirms
that at least one use of these 5 digits broadcasts is for control of
Soviet agents in foreign countries.

Page 504:

Finally, [Geoffrey] Prime was instructed on how to receive coded
radio messages and was given a signal schedule describing the days,
times, and frequencies over which they would be sent. The
transmissions, which would originate in East Germany, would be sent
in five number groups, and to decipher them Prime was provided with
a supply of small, gridlike one-time pads.

Page 532:

[T]here was a strange coded message picked up by a radio operator
in England on the evening of July 22, 1982, weeks after Prime had
been arrested and placed in jail and nearly a week after the
scandal had hit the front pages. Coming from and East German radio
station was the monotonous sound of a woman's voice reading in
English five-number code groups: "04376 74989 30300 70901 82266
68375 81377 80734 61156 ..." The question is, who else was
listening?

Page 502 to 505, my summary:

Geoffrey Prime was a KGB controlled agent in Britain's Government
Communications Headquarters (GCHQ, their equivalent to the NSA).
His KGB code-name was "Rowlands". He began service with the Joint
Technical Language Service (JTLS) of the GCHQ on Sep. 30, 1968, so
spy messages were transmitted at least from 1968 to 1982.

So to all you people trying to decipher these messages, good luck!
Soviet military one-time ciphers are probably about as hard to break as
pre-stressed concrete!

Michael L. Mauldin (Fuzzy) Department of Computer Science
ARPA: Michael.Mauldin@NL.CS.CMU.EDU Carnegie-Mellon University
Phone: (412) 268-3065 Pittsburgh, PA 15213-3890

Maybe one of the nice people at the NSA who monitor UseNet traffic
will read this message and shed some light on this matter. :-)

60. Re: "Numbers" stations (possible answers)

Newsgroup: rec.ham-radio
Date: 1987-12-07 22:57:04 UTC
From: travis@madonna.UUCP
Message-ID: <5178@columbia.edu>
Source record: 19836
Cross-posted to: rec.ham-radio,sci.crypt

In article <2475@ihuxz.ATT.COM> parnass@ihuxz.ATT.COM (Bob Parnass, AJ9S) writes:
>In article <123.003505@adam.DG.COM>, Pete_Simpson@MERCURY.CEO.DG.COM
>writes on hearing shortwave broadcasts of coded number groups:
>
>These "numbers" stations may be found on several frequen-
>cies, with both males and females speaking in many langu-
>ages.
>

There is a rather long list of these frequencies, and what is said on them (i.e., the languages and numbers, not the plaintext!) in the book Big Secrets, which is a compilation of "secrets", such as the Kentucky Fried Chicken formula. I don't have a full reference, but it came out in 85 or 86 in a largish yellow paperback. If you can't find it, send me mail and I'll get the complete info. The author also thought that these were spy stations, but no one is sure.

t

Arpa: travis@cunixc.columbia.edu Bitnet: travis@cu20b
Usenet: rutgers!columbia!travis
USMail: 483 Mudd, Columbia Univ., NYC 10025 Phone: 212-280-8091

61. Re: "Numbers" stations (possible answers)

Newsgroup: rec.ham-radio
Date: 1987-12-12 00:43:48 UTC
From: darrell@sdcsvax.UCSD.EDU
Message-ID: <4386@sdcsvax.UCSD.EDU>
Source record: 19837
Cross-posted to: rec.ham-radio,sci.crypt

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Author: Poundstone, William.
Title: Big secrets : the uncensored truth about all sorts of stuff you
are never supposed to know / William Poundstone. 1st ed. New
York : Morrow, 1983.
228 p. : ill. ; 25 cm.

Notes: Includes index.

Subjects: Trade secrets.
--
Darrell Long
Department of Computer Science & Engineering, UC San Diego, La Jolla CA 92093
ARPA: Darrell@Beowulf.UCSD.EDU UUCP: darrell@sdcsvax.uucp
Operating Systems submissions to: comp-os-research@sdcsvax.uucp
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62. 16450 compatible with 8250 ?

Newsgroup: rec.ham-radio
Date: 1987-12-20 16:47:16 UTC
From: john@wa3wbu.UUCP
Message-ID: <436@wa3wbu.UUCP>
Source record: 19838
Cross-posted to: comp.sys.ibm.pc,rec.ham-radio

I recently installed a serial card in my 8 Mhz AT that contains a 8250 chip. I've since ordered the second serial port for the card and I was sent a 16450 and associated chips. My question, is the 16450 plug compatible with the 8250 ? Also what are the pros and cons of using the 8250 in an AT ? I know I've seen many serial cards advertised as either "XT" or "AT" cards and the only difference appears to be the XT cards usually use the 8250 and the AT cards the 16450. Thanks.

John, WA3WBU

--
John Gayman, WA3WBU | UUCP: uunet!wa3wbu!john
1869 Valley Rd. | ARPA: wa3wbu!john@uunet.UU.NET
Marysville, PA 17053 | Packet: WA3WBU @ AK3P

63. Antenna Questions

Newsgroup: rec.ham-radio
Date: 1987-12-30 16:55:48 UTC
From: scott@scirtp.UUCP
Message-ID: <1128@scirtp.UUCP>
Source record: 19839
Cross-posted to: rec.ham-radio,sci.electronics

I think I've got a worst case situation for installing
a HF antenna for amatuer radio use. I'd appreciate any
help you can provide.

The Situation:

My apartment is near the bottom of a large hill. Its surrounded
by power lines. I have enough space for a 15 and 10 meter
dipole against my apartment, but I think a 20 meter dipole is
going to be too close to the power lines (amongst the trees --
see diagram) for saftey. In any case, the antenna is likely to
be almost parallel to a power line, picking up noise.

```
220V power line
-------------------------+
( some trees ) |
|
<-~23 feet-> | 440+
============ | 220 V
[ my apt. ] | power line
[ ] |
[ ] |
```

Is this situation hopeless ? Am I likely to get reasonable performance
out of dipoles in the situation ? Is a random-wire run inside the
apartment likely to do better ? Has anyone experience with the
"Slinky"-type antennas ?

Thanks very much !
--
Scott Crenshaw {akgua,decvax}!mcnc!rti-sel!scirtp!scott
SCI Systems , Inc. Research Triangle Park, NC